

SiC (Silicon Carbide) Pressure Transducer

NASA and Glennan Microsystems Initiative



TECHNOLOGY

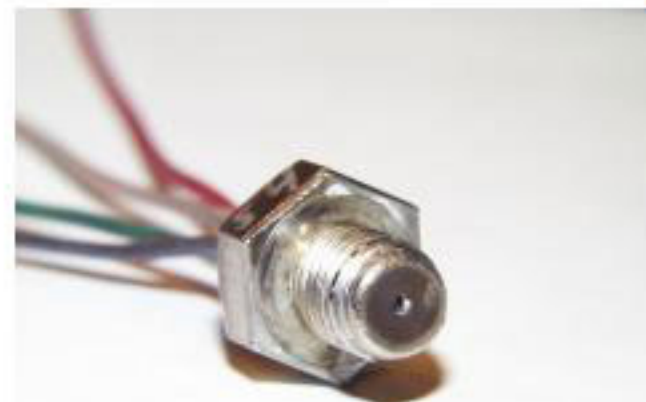
The fabrication and characterization of a single crystal hermetically sealed 6-H-SiC pressure transducer that operates at 600 °C. This methodology offers the unique features that enabled the successful sensors operation at 600 °C.

COMMERCIAL APPLICATION

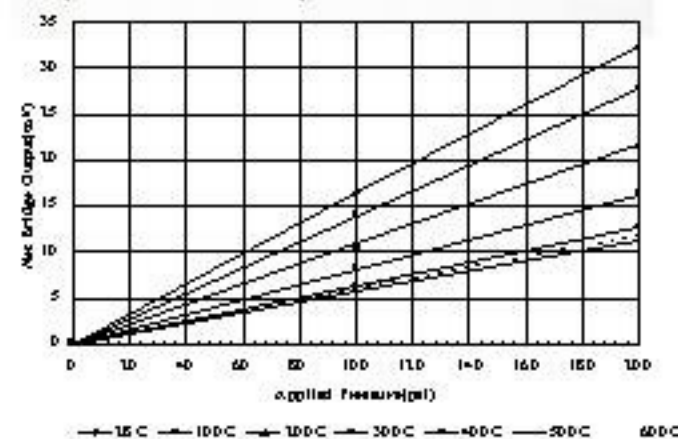
- ◆ Environmental protection to electronics and sensors targeted.
- ◆ Aeronautical and automobile combustion engine pressure monitoring (temperature > 500 °C)
- ◆ Pressure monitoring in deep-well drilling (temperature ~300 °C)
- ◆ Pressure monitoring in industrial processes (temperature > 500 °C)

SOCIAL / ECONOMIC BENEFIT

- ◆ Improve fuel efficiency in jet engines and automobiles
- ◆ Reduces the undesirable emission of hydrocarbons and other combustion by- products
- ◆ Long-term reliability characterization will be performed in the future to validate such capability



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NASA APPLICATIONS

- ◆ Under consideration for pressure measurement in engine compressor and combustion sections.

NASA Contact: Dr. Robert Okojie
Company Contact: (216)-433-6522
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